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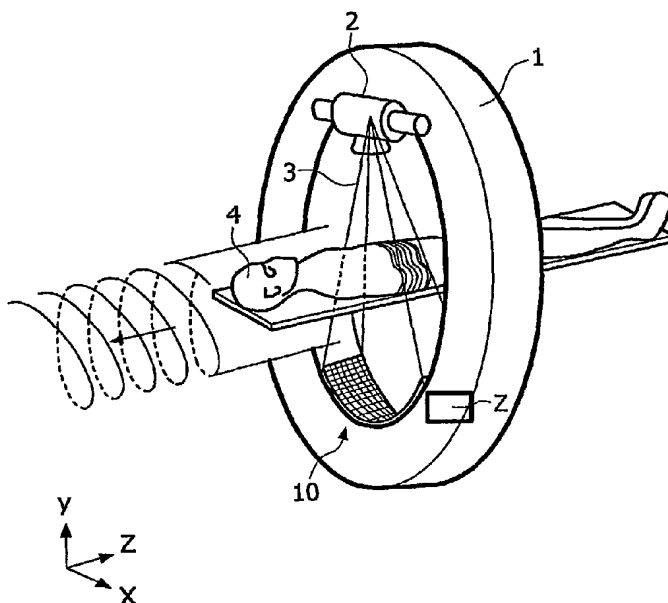
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(54) Title: DETECTOR ARRANGEMENT, ESPECIALLY FOR A COMPUTER TOMOGRAPH



(57) Abstract: A detector arrangement (10) for detecting and transferring detector signals to a processing unit is described. This detector arrangement is provided in particular for use in a computer tomograph for high-resolution detection of X-rays, the processing unit being in the form of a central processing unit or buffer memory (Z) on a rotatable portion of a gantry (1). To transfer the detector signals with the minimum number of contacts or plug-in connectors also in the case of a high-resolution detector arrangement (10), this comprises at least one detector module having a plurality of individual detector elements as well as an electrical unit having an electro-optical transducer for processing the signals of the detector elements and for generating optical detector module output signals.



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# INTERNATIONAL SEARCH REPORT

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<b>A. CLASSIFICATION OF SUBJECT MATTER</b> IPC 7 G01T1/20		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) IPC 7 G01T		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data, INSPEC, PAJ		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	TSANG T ET AL: "ELECTRO-OPTICAL MODULATORS IN PARTICLE DETECTORS" REVIEW OF SCIENTIFIC INSTRUMENTS, AMERICAN INSTITUTE OF PHYSICS, NEW YORK, US, vol. 66, no. 7, 1 July 1995 (1995-07-01), pages 3844-3854, XP000524280 ISSN: 0034-6748 page 3844, column 1, paragraph 2 - column 2, paragraph 2 page 3846, column 1, line 2 - column 2, line 1 page 3850, column 1, paragraph 2 - page 3851, column 1, paragraph 1 page 3852, column 2, paragraph 2 page 3853, column 1, paragraph 2 figure 11 <div style="text-align: center; margin-top: 10px;">             -----              -/--           </div>	1,4,5
<div style="display: flex; justify-content: space-between;"> <span><input checked="" type="checkbox"/> Further documents are listed in the continuation of box C.</span> <span><input type="checkbox"/> Patent family members are listed in annex.</span> </div>		
<div style="display: flex;"> <div style="flex: 1;"> <p>* Special categories of cited documents :</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> </div> <div style="flex: 1;"> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</p> <p>"&amp;" document member of the same patent family</p> </div> </div>		
Date of the actual completion of the international search <div style="text-align: center; font-size: 1.2em;">27 April 2005</div>		Date of mailing of the international search report <div style="text-align: center; font-size: 1.2em;">08. 07. 2005</div>
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## INTERNATIONAL SEARCH REPORT

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>STANTON J C: "A LOW POWER LOW NOISE AMPLIFIER FOR A 128 CHANNEL DETECTOR READ-OUT CHIP" IEEE TRANSACTIONS ON NUCLEAR SCIENCE, IEEE INC. NEW YORK, US, vol. 36, no. 1, 1 February 1989 (1989-02-01), pages 522-527, XP000253846 ISSN: 0018-9499 the entire article -----</p>	6,7

# INTERNATIONAL SEARCH REPORT

PCT/IB2004/052489

## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

see annex

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claim: 1 2 4 5

A radiation detector circuit containing both an A/D and a P/S converter for generating a serial, digital, detector output signal.

1.1. claim: 6 7

A detector module comprising a CMOS chip.

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2. claim: 3

The use of an opto-electrical transducer.

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3. claim: 8 9 10 11

A detector module with a cable duct, guide rails, module connectors and printed circuit board backplate.

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4. claim: 12 13

A computer tomograph (CT) with optically connected detector arrays and wireless transmission of the output signal to the central processor.

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